	Application No.	Applicant(s)	
Notice of Allowability	10/650,079	KLEIN, UDO	
	Examiner	Art Unit	
	Rezwanul Mahmood	2164	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address*--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *the amendment filed on 06/01/2007*.

2. ☒ The allowed claim(s) is/are *1-10,12 and 14-22*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some*   c) ☐ None of the:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of

    Paper No./Mail Date _____ .

    Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date 06/01/2007

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application

6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *08/28/07* .

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

CHARLES RONES
SUPERVISORY PATENT EXAMINER

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes

and/or additions be unacceptable to applicant, an amendment may be filed as provided

by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be

submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview

with Mr. Stephen R. Schaefer on 08/28/2007.

The application has been amended as follows:

Please delete claims 11 and 13.

Please replace claims 1-10, 12 and 14-22 with amended cleaned version of

claims 1-10, 12 and 14-22 as follows:

1)   A computer-implemented method comprising:

translating grouping values into nodes of a directed graph, wherein the grouping

values are associated with periods of timelines, the timelines comprising data records,

and wherein a grouping value associated with a period of a first one of the timelines

being the same as a grouping value associated with a concurrently occurring period of a

second one of the timelines indicates that specified data of a data record for the period

of the first one of the timelines is to be synchronized with the specified data of a data

record for the period of the second one of the timelines;

distributing data through the nodes to obtain a modified subset of the data

records;

re-distributing the data recursively along the nodes to obtain a modified directed

graph;

translating the modified directed graph into a modified plurality of timelines that

include the modified subset of data records; and

storing the modified plurality of timelines in a storage medium.

2)   The method of claim 1, wherein the data records are subject to a time constraint

such that temporal gaps between the data records are not allowed, and further wherein

the modified subset of data records are in compliance with the time constraint.

3)   The method of claim 1 comprising extending a data record preceding a

temporary gap between data records caused by a modification of the data records

through the temporary gap to a next-occurring data record.

4)   The method of claim 1 wherein translating sequences of grouping values

comprises:

assigning identical grouping values to a single node; and

inserting edges of the directed graph between pairs of nodes that correspond to

consecutively-occurring ones of the periods.

5)   The method of claim 4 comprising representing a node of the directed graph

based on a grouping value and beginning point of an associated one of the periods.

6)   The method of claim 1 wherein distributing data through the nodes comprises:

assigning each grouping value and its associated period an assigned color; and

coloring each node its assigned color to represent data, so that nodes having

identical color share identical data.

7)   The method of claim 1 wherein re-distributing the data comprises:

associating data records of a first timeline and a second timeline from the

plurality of timelines with a first grouping value; and

synchronizing the data records.

8)   The method of claim 1 wherein distributing data comprises removing a node from

the directed graph that corresponds to a timeline period that is associated with a data

record having data at its beginning.

9)   The method of claim 1 wherein distributing data comprises:

traversing the directed graph and designating consecutive nodes identically so as

to represent identical data stored in association with the grouping values represented by

the consecutive nodes; and

stopping the traversing upon reaching a differently-designated node.

10)   An apparatus comprising a storage medium having machine-executable

instructions stored thereon, the instructions including:

a first code segment, stored on the storage medium, for selecting a first grouping

value sequence associated with a first timeline, the first timeline including first data

records;

a second code segment, stored on the storage medium, for selecting a second

grouping value sequence associated with a second timeline, the second timeline

including second data records, wherein the first data records and second data records

are subject to a time constraint such that no gap is allowed between any two of the first

data records and between any two of the second data records, and further wherein a

grouping value associated with a period of the first timeline being the same as a

grouping value associated with a concurrently occurring period of the second timeline

indicates that specified data of a data record for the period of the first timeline is to be

synchronized with the specified data of a data record for the period of the second

timeline;

a third code segment, stored on the storage medium, for mapping the first

grouping value sequence and the second grouping value sequence into nodes of a

directed graph;

a fourth code segment, stored on the storage medium, for representing data

associated with a first grouping value in the directed graph by providing a first

designation to a first node associated with the first grouping value; and

a fifth code segment, stored on the storage medium, for recursively distributing

data through the directed graph in response to a modification of one of the first data

records, beginning with a high date of the first timeline and the second timeline, to

ensure that all of the first and second data records are in accordance with the time constraint.

12)   The apparatus of claim 10 comprising a fifth code segment for extending a data record that precedes a gap in its associated timeline, in violation of the time constraint, until the data record meets a succeeding data record.

14)   The apparatus of claim 10 comprising a sixth code segment for mapping the directed graph into a modified first timeline and a modified second timeline.

15)   The apparatus of claim 10 wherein each grouping value is associated with a time period, and wherein identical data appears in the first timeline and the second timeline whenever a grouping value and period overlap.

16)   The apparatus of claim 10 comprising:

a sixth code segment, stored on the storage medium, for assigning identical grouping values to a single node of the directed graph; and

a seventh code segment, stored on the storage medium, for inserting edges of the directed graph between pairs of nodes that correspond to consecutively-occurring ones of grouping values from the first grouping value sequence and the second grouping value sequence.

17)   The apparatus of claim 10 comprising a sixth code segment, stored on the

storage medium, for removing a node from the directed graph that corresponds to a

timeline period that is associated with a data record having data at its beginning.

18)   The apparatus of claim 10 comprising:

a sixth code segment, stored on the storage medium, for traversing the directed

graph and designating consecutive nodes identically so as to represent identical data

stored in association with the grouping values represented by the consecutive nodes;

and

a seventh code segment, stored on the storage medium, for stopping the

traversing upon reaching a differently-designated node.

19)   A system comprising:

means for associating, in an electronic database, nodes of a directed graph with

grouping periods and grouping values associated with timelines, wherein a grouping

value associated with a period of a first one of the timelines being the same as a

grouping value associated with a concurrently occurring period of a second one of the

timelines indicates that specified data of a data record for the period of the first one of

the timelines is to be synchronized with the specified data of a data record for the period

of the second one of the timelines;

means for associating, in an electronic database, an edge of the directed graph

between succeeding grouping periods;

means for distributing data through the nodes to obtain a modified subset of the data records, re-distributing the data recursively along the nodes to obtain a modified directed graph, and translating the modified directed graph into a modified plurality of timelines that include the modified subset of data records; and

means for storing the modified plurality of timelines in a storage medium.

20)   The system of claim 19 wherein the timelines each comprises data records that are subject to a time constraint such that no temporal gap is allowed to exist between any two of the data records included in the respective timeline.

21)   The system of claim 19 comprising means for designating nodes of the directed graph as corresponding to grouping periods containing data.

22)   The system of claim 19 wherein a grouping period and a grouping value are associated with identical data of the timelines.

REASONS FOR ALLOWANCE

1.   Claims 1-10, 12 and 14-22 are pending in this office action.

2.   Claims 11 and 13 have been cancelled.

3.   The closes prior arts are Kaiser (US Publication 2005/0010606), Gupta (US

Patent 6,415,326), Lystad (US Publication 2005/0182783) and Gusack (US Patent

6,112,209)

4.   Claims 1, 10 and 19 are the pending independent claims.

5.   The following is an examiner's statement of reasons for allowance:

Regarding the independent claims 1, 10 and 19, applicant's claimed invention of

"translating grouping values into nodes of a directed graph...specified data of a data

record for the period of the first one of the timelines is to be synchronized with the

specified data of a data record for the period of the second one of the timelines...

distributing data through the nodes to obtain a modified subset of data records"

combined with "recursively re-distributing the data along the nodes to obtain a modified

directed graph" would not have been obvious over, nor would have been fairly

suggested by the prior art of record.

Because of the missing features in the references mentioned above, independent

claims 1, 10 and 19 are allowable. Since claims 2-9 depend on claim 1, claims 12 and

14-18 depend on claim 10, and claims 20-22 depend on claim 19, they are also

allowable.

Any comments considered necessary by applicant must be submitted no later

than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on

Statement of Reasons for Allowance."

CONTACT INFORMATION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rezwanul Mahmood whose telephone number is (571)272-5625. The examiner can normally be reached on M - F 10 A.M. - 5 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Rones can be reached on (571)272-4085. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Rezwanul Mahmood
Examiner
Art Unit 2164

August 30, 2007

CHARLES RONES
SUPERVISORY PATENT EXAMINER